

# Bounds

## Mark Scheme 3

Level	IGCSE
Subject	Maths (0580)
Exam Board	Cambridge International Examinations (CIE)
Paper Type	Extended
Topic	Number
Sub-Topic	Bounds
Booklet	Mark Scheme 3

**Time Allowed:** 27 minutes

**Score:** /22

**Percentage:** /100

**Grade Boundaries:**

A*	A	B	C	D	E	U
>85%	75%	60%	45%	35%	25%	<25%

1	(a)	(£) 2.37 or 2.371 to 2.372    www 2	2	<b>M</b> for $34.95 \div 1.17$ implied by 29.87...or 29.9 or <b>SC1</b> for 2.77 or 2.78 or 2.775
	(b)	154 days 4 hours    cao	3	<b>M1</b> for $4.07 \times 10^{12} \div (1.1 \times 10^9)$ implied by figs 37 or 154. (...) <b>A1</b> for 3700 seen or $3.7 \times 10^3$ seen or $154\frac{1}{6}$ oe or 154 rem 4
	(c) (i)	9.25	1	
	(ii)	Lower = 51.3375 final answer Upper = 52.8275 final answer	1 1	After 0 scored <b>SC1</b> for answers reversed or 9.35 <b>and</b> 5.65 seen or 51.3375 <b>and</b> 52.8275 seen

2	(a) (i)	$2 \times 3 \times 3 \times 7$ oe	2	<b>M</b> for prime factors of 2,3,3,7 shown condone 1('s) shown as well for method only
	(ii)	18	1	
	(iii)	504	2	<b>M1</b> for other multiples of 504 or $2 \times 2 \times 2 \times 3 \times 3 \times 7$ oe shown If (ii) and (iii) both correct but reversed allow <b>SC1</b>
	(b)	3.028 or 3.029    cao	4	<b>B3</b> for 3.0289(85...) or <b>M1</b> for their 105/their 34 (their 105 in range 104 to 106 and their 34 in range 33 to 35) and <b>B1</b> for 104.5 or 34.5 or 34.499.. selected
(c)	$\pi r^2$ their $h =$ their $V$  $(r^2 =) \frac{\text{their } V}{\pi \times \text{their } h}$  Sq root Selects 555 or 554.99.. and 11.5 3.919    cao	<b>M1</b> <b>M1</b> <b>M1</b> <b>B1</b> <b>A1</b>	Where $V$ is in range 540 to 560 and $h$ is in range 11 to 13 Implies previous method (15.36 implies <b>M2</b> ) If using 545 and 12.5 then 13.88 (leading to 3.73) If using 550 and 12 then 14.59 (leading to 3.82) Dep on <b>M2</b> , can be implied from answers Indep If trials then 5 or 0	